

Claims.

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1. corner joint, in particular a corner joint (1) for cabinetwork which is made of hollow moulds (2-3), whereby this corner joint (1) has at least one infeed corner piece (4) with two infeed parts (5-6) extending at an angle which extend in the respective far ends of the moulds (2-3) to be joined, characterised in that it is provided with supplementary features which increase the resistance of this corner joint (1) and thus of the mitre as a whole against deformation.
- 15 2. Corner joint according to claim 1, characterised in that the supplementary features consist of the combination of at least the following characteristics:
- 20 - that the infeed corner piece (4) has a part (34) on at least one of the infeed parts (5-6) and preferably on both infeed parts (5-6) which extends through the cavity (9-10) of the accompanying mould (2-3) in an oblique manner as of the accompanying locking means (12) up to the opposite wall (33) of the cavity (9-10) in which the infeed corner piece (5-6) is situated, whereby this part (34) forms a support up to a place (P) which is situated significantly deeper in the cavity (9-10) than the above-mentioned locking means (12);
- 25 - that the infeed parts (5-6) are equipped with parts (40) which are joined together at an angle and which are each connected at their far ends to the above-mentioned accompanying oblique part (34), such that pressure created in the oblique parts (34) creates a tensile force in the first-mentioned parts (40);
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- Sign'd*
- that the above mentioned parts (40) which are joined together at an angle are situated against the inner wall (33) of the cavities (9-10) in which the infeed parts (5-6) are provided; and
- 5 - that the infeed parts (5-6) mainly have the shape of an arrow point split in the longitudinal direction, whereby the outer corner is predominantly free of any material, possibly to the exception of a number of elastically deformable positioning parts (43-45).
- 10 3. Corner joint according to claim 1 or 2, characterised in that the supplementary features consist of locking means (12) in the shape of upset material parts meshing in notches (15) in the infeed corner piece (4) as of a wall 15 (14) of the moulds (2-3), whereby these material parts have one or several of the following characteristics:
- that an upsetting is applied which is close to the maximally admitted upsetting of the material, so as to allow for a safety margin;
- 20 - that the upsetting is selected such that it is nominally sufficiently large so as to compensate for the usual production tolerances and lacquer thicknesses on the produced semi-finished products 25 that are taken as a basis; - that an upsetting is applied whose useful working force on the total mitre can only be increased by enlarging the deposit surface increase of the upset material parts.
- 30 4. Corner joint according to any of the preceding claims, characterised in that it is provided with locking means (12) consisting of upset material parts in the shape of lips (13) which are made by means of slantingly pressed-in parts of the moulds (2-3) and which co-operate with notches 35 (15) in the infeed corner piece (4), and in that the

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*Suppl. features*  
~~supplementary features consist of one or several notches~~

(15) in the infeed corner pieces (4), whereby these notches  
(15) have one or several and preferably all of the  
following characteristics:

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- that they are triangular;
- that they are triangular, whereby the side (19) against which the lip (13) concerned is situated is longer than the side (20) over which the free end of the lip (13) is pressed in;
- that they have the shape of a predominantly right-angled triangle, whereby the relation between the side (19) against which the lip (13) is situated and the side (20) over which the free end of the lip (13) is pressed in, is dictated by the compression characteristics of the material of the moulds;
- that the side (20) of the notches (15) over which the free end (21) of the lip (13) is pressed in has a concave bent and/or buckled shape;
- that the side (20) of the notches (15) over which the free end (21) of the lip (13) is pressed in, on the place where the free end (21) of this pressed-in lip (13) makes contact with said side (20) extends perpendicular or almost perpendicular to the longitudinal direction of the pressed-in lip (13);
- that the notches (15) have a depth of 3 to 4 mm.

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5. Corner joint according to any of the preceding claims, characterised in that it is provided with locking means (12) consisting of one or several upset material parts in the shape of lips (13) which are made by means of slantingly pressed-in parts of the moulds (2-3), and in that the supplementary features consist at least of stop parts (23) which are situated behind the lips (13) and ~~which allow for a pressing-on of the lips (13)~~.

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6. corner joint according to claim 5, characterised in that this corner joint (1), and in particular the stop parts (23) have one or several of the following characteristics:

- 5            - the stop parts (23) extend in the prolongation (24) of the press-on direction (F);
- 10          - over the major part of their girth, the stop parts (23) are detached from the remaining structure of the infeed corner piece (4);
- 15          - the stop parts (23) are only connected to the rest of the infeed corner piece (4) at their base (25);
- 20          - in case of larger dimensions, the infeed corner piece (4) has a framed structure which is clearly recognisable, whereby the stop parts (23) are made thicker than the surrounding parts of the framed structure and/or are made equally thick as the total length of the pressed-in lip (13);
- 25          - near every stop part (23) concerned, the infeed parts (5-6) of the infeed corner piece (4) are provided with a recess (30) meant for storing any possible material which has been scraped off during the pressing in of the lips (13);
- 30          - every stop part (23) concerned is carried out in relief, preferably in the shape of a serration (32) on the surface against which the lip (13) concerned is pressed;
- 35          - the stop parts (23) have such a shape that the formation of any possible cavities under the pressed-in lips (13) is restricted and preferably excluded;
- every stop part (23) concerned has a stop surface (31) which is inclined in relation to the longitudinal direction of the accompanying mould (2-3), with an inclination which is preferably equivalent to the inclination of the pressed-in lip (13).

7. ~~Corner joint according to any of claims 4, 5 or 6~~  
characterised in that a filling compound is provided on the  
place of the pressed-in lips (13) in the shape of glue,  
5 synthetic material or such, whereby:

- this filling compound is either provided under the  
lip (13) so as to fill up any cavities under the lip  
(13);
- 10 - or this filling compound is provided in the passages  
around the lip (13), such that they are sealed off;
- or this filling compound is provided on the pressed-  
in lip (13) so as to entirely fill up the notch (15);
- 15 - or this filling compound provides for a combination  
of the above-mentioned functions.

8. Corner joint according to any of the preceding claims,  
characterised in that, before an infeed part (5-6) is  
placed in a cavity (9-10) of the accompanying profile (2-  
20 3), a filling compound in the shape of glue or such is  
provided in this cavity (9-10).

9. Corner joint according to any of the preceding claims,  
characterised in that it is provided with locking means  
25 (12) which operate on the outside of the moulds (2-3)  
concerned and which work in conjunction with the infeed  
corner piece (4), and in that the supplementary features at  
least consist in that the infeed corner piece (4) has a  
part (34) on at least one of the infeed parts (5-6), and  
30 preferably on both infeed parts (5-6), which extends  
slantingly through the cavity (9-10) of the accompanying  
mould (2-3) as of the accompanying locking means (12) up to  
the opposite wall (33) of the cavity (9-10) in which the  
infeed corner piece (4) is situated, whereby this part (34)  
35 forms a support up to a place where it is situated

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~~J significantly deeper in the cavity (9-10) than the above-mentioned locking means (12).~~

10. Corner joint according to claim 9, characterised in  
5 that it is part of a frame, of a window or a door, in which  
is provided a panel, in particular a pane of glass (16),  
which is fixed by means of wedges (17), characterised in  
that the wedges (17) are situated, preferably with their  
centre, in the extension (24) of the above-mentioned part  
10 (34).

11. Corner joint according to claim 9, characterised in  
that it is meant for a frame of a window or a door, in  
which a panel, in particular a pane of glass (16), is  
15 provided by fixing it by means of wedges (17),  
characterised in that the above-mentioned part (34) is  
directed such that the intersection (37) of the extension  
(24) thereof with the edge of the panel is situated on a  
distance (Z) from the corner of the panel which is in the  
20 order of magnitude of 10 cm.

12. Corner joint according to any of claims 9, 10 or 11,  
characterised in that the above-mentioned part (34) is made  
in the shape of a leg (26) which extends in the above-  
25 mentioned direction.

13. Corner joint according to any of claims 9 to 12,  
characterised in that the locking means (12) consist of  
30 lips (13) which are pressed in slantingly and thus provide  
for a tensile force, and in that these lips (13) are  
pressed in such that at least one of the following  
characteristics is met:

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- ~~- the free end (21) of every lip (13) concerned is situated behind the central axis (39) of the above-mentioned part (34);~~
- ~~- every lip (13) concerned has a direction which is slightly buckled inward in relation to the direction of the above-mentioned part (34).~~

14. Corner joint according to any of claims 9 to 13, characterised in that the above-mentioned part is made in the shape of a leg (26) which is part of a triangle whose second leg (27) extends against the inside of the above-mentioned cavity (9-10) and whose third leg (29) forms a link between the first-mentioned leg (26) and the second leg (27).

15. Corner joint according to any of the preceding claims, characterised in that the supplementary features at least consist of the combination of parts (40) formed on the infeed parts (5-6) which join at an angle on the one hand, and means which make it possible to create a tensile force in these parts (40).

16. Corner joint according to claim 15 and any of claims 9 to 14, characterised in that the means which make it possible to create a tensile force in the above-mentioned parts (40) joining at an angle are formed of the above-mentioned oblique parts (34), which are connected to the above-mentioned parts (40) with their free ends, such that the pressure created in the oblique parts (34) creates a tensile force in the first-mentioned parts (40).

17. Corner joint according to claim 15 or 16, characterised in that the above-mentioned parts (40) are situated against the inner wall (33) of the respective cavities (9-10).

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cont.*
18. Corner joint according to any of the preceding claims, characterised in that the above-mentioned supplementary features at least consist in that the corner joint (1) is predominantly free of parallel surfaces between the infeed corner piece (4) and the outer wall (14) of the above-mentioned cavities (9-10), to the exception of any possible zones (D1) in which locking means are mounted.
19. Corner joint according to any of the preceding claims, characterised in that the above-mentioned supplementary features at least consist of a free space (42) formed on the outside corner of the infeed corner piece (4), in particular a space which is free of any massive material.
20. Corner joint according to any of the preceding claims, characterised in that the infeed corner piece (4) is provided with positioning elements to force it in the right position when it is placed in the cavities (9-10).
21. Corner joint according to claim 20, characterised in that the positioning elements consist of any of the following elements:
- elastic press-on means which push the infeed parts (5-6) with their inner sides against the inner wall (33) of the above-mentioned cavities (9-10) of the moulds (2-3);
  - elastically bendable flaps (43) which are provided on the infeed parts (5-6) at a distance from the corner point and which work in conjunction with the outer wall (14) of the cavities (9-10);
  - support and guiding elements on the corner point, preferably in the shape of a little leg (44), provided with elastically bendable flaps (45) which work in

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Joint*

Conjunction with the outer wall (14) of the cavities  
(9-10) respectively.

22. Corner joint according to any of the preceding claims,  
5 characterised in that the above-mentioned supplementary  
features at least consist of a space (46) provided in the  
material of the infeed corner piece (4), right behind the  
inside corner, without any removal of the material part  
10 (47) of the inside corner, however, which space makes it  
possible to push away any burrs which may be present on the  
moulds, whereby the above-mentioned material part is then  
deformed.
23. Corner joint according to any of the preceding claims,  
15 characterised in that the infeed corner piece (4) has  
infeed parts (5-6) made in one piece.
24. Corner joint according to any of claims 1 to 22,  
characterised in that the infeed parts (5-6) are hinge-  
20 mounted in their corner point.
25. Corner joint according to claim 24, characterised in  
that the infeed parts (5-6) are made hook-shaped on their  
co-operating far ends and are connected to one another by  
25 means of a pivot (52).
26. Corner joint according to any of the preceding claims,  
characterised in that the above-mentioned supplementary  
features consist of the right adjustment and/or positioning  
30 and/or combination of several of the components, such as  
the result of one or several measures which are taken  
during the manufacturing process of the corner joint (1).
27. Infeed corner piece for realising a corner joint  
35 according to any of the preceding claims, characterised in

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*Six days earlier*  
~~that this infeed corner piece (4) has one or several of the characteristics which are described in the preceding claim in relation to this infeed corner piece (4).~~

5 28. Method for realising a corner joint according to claim  
26, characterised in that it includes one or several of the  
following steps:

- 10 - the use of means which force the moulds (2-3) to assume their theoretically perfect shape before and/or after the mitre-sawing;
- 15 - in case locking means (12) are used in the shape of inwardly bent lips (13) which are formed by pressing them in, the use of means which force the moulds (2-3) to assume their perfect shape;
- 20 - in case locking means (12) are used in the shape of inwardly bent lips (13) which are formed by pressing them in, the adjustment of the end point of the movement of the pressing knives (48), such that during the pressing, the mitre as a whole rebounds slightly.
- 25 - in case locking means (12) are used in the shape of inwardly bent lips (13) which are formed by pressing them in, the application of a filling compound or such in the notch (15) in which the lips (13) are provided, in such an amount that it is at least partially driven out during the pressing, and such that a sealing is formed on these openings, next to the lip (13).

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